Monthly Progress Report
Corrective Measures Study (CMS) for Potential Release Site (PRS) 16-021(c)
November 2002

This report summarizes Los Alamos National Laboratory (LANL) activities completed during November of fiscal year (FY) 2003 on the CMS for PRS 16-021(c), the 260 outfall. Both the activities described in the CMS plan ([LA-UR-98-3918)], approved by NMED-HWB on 9/8/99), and other related activities are described herein.

Description of Activities and Contacts

High Performing Team (HPT) Activities – The 260 HPT did not meet during November 2002.

The next HPT meeting is scheduled for December 2, 2002. Agenda items may include the CMS addendum, CMS bench and pilot results, ecorisk, a data update, and points of compliance.

RCRA Facility Investigation (RFI) Report and CMS Plan– The peer review draft of the revision to the CMS addendum was completed.

Best Management Practices (BMPs)– BMPs are inspected quarterly and following significant precipitation events. No BMP repairs were required in November.

CMS Hydrogeologic Investigations– CMS hydrogeologic investigations include ongoing Phase II RFI sampling as well as continuing investigations outlined in the CMS plan.

The ongoing Phase II RFI sampling program includes collecting stable isotope samples every other day at Martin and Burning Ground spring. SWSC spring remains dry

The alluvial and deep wells were checked for presence and level of water. All five alluvial wells in Canon de Valle contained water. No water was present in the three alluvial wells in Martin Spring Canyon. All of the intermediate depth boreholes were dry. A stream profile including lab samples was completed.

One sample from each of four precipitation events was collected and archived for analysis during this reporting period.

Further results from the controlled source auto-magneto telluric investigation (CSAMT) were received. The 2-D lines processed to date show steeply dipping conductive zones and a horizontal conductive zone on the west side of TA-16.

Groundwater modeling to investigate conceptual models and contaminant transport for the deep-perched zone at TA-16 was continued. An internal report on this was produced.

Ecological Risk Pilot–

Data analysis to support the combined MDA-P and TA-16-260 ecorisk evaluations continued. It was determined that resampling for the last round of ecotoxicological testing was needed.

CMS Bench and Pilot Studies–Bench and pilot studies continued in collaboration with the Innovative Treatment Remediation Demonstration (ITRD) Program. The ITRD HE program is focused on two DOE sites: LANL and Pantex. Studies include:

1. A study of the passive barrier technology of Stormwater Management, Inc., which is potentially useful for removing HE and barium from waters.
2. A study of chemical treatment of HE-contaminated soil using zero-valent iron (ZVI). The LANL portion of this study has been completed.
3. At Pantex, a study of in situ anaerobic bioremediation of HE using gas-phase carbon additions.
4. A study of ex situ anaerobic bioremediation of HE-contaminated soils using the W. R. Grace process, which combines anaerobic bioremediation with a ZVI treatment. The LANL portion of this study has been completed.
5. A study of HE composting. Amendments appropriate to northern New Mexico were tested on both clean and contaminated soils. The LANL portion of this study has been completed. The internal report was completed on these studies. It is anticipated that this will be discussed in the HPT and will be an appendix of the CMS Report.
6. A study of immobilization of barium-contaminated sediments from Cañon de Valle. A preliminary study has been completed and further investigations are ongoing.
7. Phytoremediation studies in Cañon de Valle. Native plants are being evaluated for their ability to remove HE from surface waters. Preliminary results suggest that low levels of phytoremediation are occurring in the Burning Ground spring area.
8. Oxidation, reduction, and in-situ bioremediation studies of groundwater contamination at Pantex.

Preliminary results from the barium stabilization treatability study were evaluated. Sulfate additions can immobilize barium in soils, although fairly high concentrations of sulfate are required.

***Interim Measure* (IM)** –

No activities. The IM Report is in review by the regulators.

RFI and CMS Report –

Work was continued on the sections of these reports.

Public and Stakeholder Involvement– No activities.

Percentage of CMS Completed

LANL estimates 91 % of the CMS has been completed to date. Note that this percentage does not reflect the deep and intermediate wells that will be drilled per the CMS plan addendum.

Problems Encountered/Actions to Rectify Problems

CMS Hydrogeologic Investigations

None.

CMS Bench and Pilot Studies

None.

IM

None.

Key Personnel Issues

None

Projected Work for December 2002

RFI Report and CMS Plan

- DQOs for intermediate depth boreholes will be further developed.
- Finalizing of a CMS Addendum for intermediate depth boreholes.

BMPs

- Inspection of existing BMPs following significant precipitation events will continue.

CMS Hydrogeologic Investigations

- Quarterly sampling including ecotoxicological resampling.
- Maintenance of autosamplers
- Checking for levels and presence of water in alluvial and deep wells.

- Continued precipitation monitoring and sampling for stable isotopes.
- Data analysis
- Writing of RFI and CMS reports
- Groundwater and natural attenuation modeling

Ecological Risk Pilot

- Submittal of rodent samples to the laboratories.
- Continued evaluation of data from macroinvertebrate studies.
- Resampling of stream locations for *Chironomus tentans* toxicity testing.

CMS Bench and Pilot Studies

- Evaluation of data from Stormwater units. Evaluation of Stormwater media based on literature and contacts with TA-50 personnel.
- Stabilization studies

IM

- Task complete.

Public and Stakeholder Involvement

None anticipated.